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Trp Lys Tyr Ser His Arg Arg His His Ser Asn Thr Gly Ser Leu Glu
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Arg Asp Glu Val Phe Val Pro Arg Thr Lys Glu Ala Leu Pro Trp Tyr
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Ala Pro Tyr Val His Gly Ser Pro Ala Gly Arg Leu Ala His Val Ala
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Val Gln Leu Thr Leu Gly Trp Pro Leu Tyr Leu Ala Thr Asn Ala Ser
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Val Ala Ala Val Ala Phe Gly Leu Tyr Lys Leu Ala Ala Ala Phe Gly
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ctc tgg tgg gtg gtg cgc gtg tac gcc gtg ccg ctg ctg atc gtc aac   994
Leu Trp Trp Val Val Arg Val Tyr Ala Val Pro Leu Leu Ile Val Asn
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gcg tgg ctg gtg ctc atc acg tac ctg cag cac acc cac ccg gcg ctg   1042
Ala Trp Leu Val Leu Ile Thr Tyr Leu Gln His Thr His Pro Ala Leu
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Thr Asp Thr His Val Ala His His Leu Phe Ser Thr Met Pro His Tyr
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attggcctcc ggg atg gcg ctc cgc ctc cac gac gtc gcg ctc tgc ctc 169
Met Ala Leu Arg Leu His Asp Val Ala Leu Cys Leu
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tcc ccg ccg ctc gcc gcc cgc cgc cgc agc ggc ggc agt ttc gtc gcc 217
Ser Pro Pro Leu Ala Ala Arg Arg Arg Ser Gly Gly Ser Phe Val Ala
15 20 25

gtc gcc tcc atg acg tcc gcc gcc gtc tcc acc agg gtg gag aac aag 265
Val Ala Ser Met Thr Ser Ala Ala Val Ser Thr Arg Val Glu Asn Lys
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aag cca ttt gct cct ccg agg gag gta cat gtc cag gtt aca cat tca 313
Lys Pro Phe Ala Pro Pro Arg Glu Val His Val Gln Val Thr His Ser

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atg cca tct cac aag att gaa att ttc aag tca ctt gat gat tgg gct   361
Met Pro Ser His Lys Ile Glu Ile Phe Lys Ser Leu Asp Asp Trp Ala
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aga gat aat atc ttg aca cat ctc aag cca gtc gag aag tgt tgg cag   409
Arg Asp Asn Ile Leu Thr His Leu Lys Pro Val Glu Lys Cys Trp Gln
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cca cag gat ttc ctc cct gac cca gca tct gaa gga ttt cat gat gaa   457
Pro Gln Asp Phe Leu Pro Asp Pro Ala Ser Glu Gly Phe His Asp Glu
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gtt aag gag ctc aga gaa cgt gcc aag gag atc cct gat gat tat ttt   505
Val Lys Glu Leu Arg Glu Arg Ala Lys Glu Ile Pro Asp Asp Tyr Phe
    110                 115                 120

gtt tgt ttg gtt gga gac atg att act gag gaa gct cta cca aca tac   553
Val Cys Leu Val Gly Asp Met Ile Thr Glu Glu Ala Leu Pro Thr Tyr
125                 130                 135                 140

cag act atg ctt aac acc ctc gac ggt gtc aga gat gag aca ggt gca   601
Gln Thr Met Leu Asn Thr Leu Asp Gly Val Arg Asp Glu Thr Gly Ala
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agc ccc act gct tgg gct gtt tgg acg agg gca tgg act gct gag gag   649
Ser Pro Thr Ala Trp Ala Val Trp Thr Arg Ala Trp Thr Ala Glu Glu
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aac agg cat ggt gat ctt ctc aac aag tac atg tac ctc act ggg agg   697
Asn Arg His Gly Asp Leu Leu Asn Lys Tyr Met Tyr Leu Thr Gly Arg
        175                 180                 185

gta gat atc agg caa att gag aag aca att cag tat ctt att ggc tct   745
Val Asp Ile Arg Gln Ile Glu Lys Thr Ile Gln Tyr Leu Ile Gly Ser
    190                 195                 200

gga atg gat cct agg act gag aat aat cct tat ctt ggt ttc gtc tac   793
Gly Met Asp Pro Arg Thr Glu Asn Asn Pro Tyr Leu Gly Phe Val Tyr
205                 210                 215                 220

acc tcc ttc caa gag cgg gcg acc ttc atc tcg cat ggg aac act gct   841
Thr Ser Phe Gln Glu Arg Ala Thr Phe Ile Ser His Gly Asn Thr Ala
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cgt cat gcc aag gac ttt ggc gac tta aag ctc gca caa atc tgt ggc   889
Arg His Ala Lys Asp Phe Gly Asp Leu Lys Leu Ala Gln Ile Cys Gly
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atc atc gcc tca gat gag aag cga cat gaa act gcg tac acc aag atc   937
Ile Ile Ala Ser Asp Glu Lys Arg His Glu Thr Ala Tyr Thr Lys Ile
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gtg gag aag ttg ttt gag atc gac cct gat ggt aca gtg gtt gct ctg   985
Val Glu Lys Leu Phe Glu Ile Asp Pro Asp Gly Thr Val Val Ala Leu
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gct gac atg atg aag aag aag atc tca atg cct gcc cac ctg atg ttt   1033
Ala Asp Met Met Lys Lys Lys Ile Ser Met Pro Ala His Leu Met Phe
285                 290                 295                 300

gac ggt cag gac gac aag ctg ttt gag cac ttc tcc atg gtc gcg cag   1081
Asp Gly Gln Asp Asp Lys Leu Phe Glu His Phe Ser Met Val Ala Gln
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agg ctt ggc gtt tac acc gcc agg gac tac gcc gac att ctt gag ttc   1129
Arg Leu Gly Val Tyr Thr Ala Arg Asp Tyr Ala Asp Ile Leu Glu Phe
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ctt gtt gac agg tgg aag gtg gcg gac ctg act ggt ctg tcg ggt gag   1177
Leu Val Asp Arg Trp Lys Val Ala Asp Leu Thr Gly Leu Ser Gly Glu
        335                 340                 345

ggg aac aag gcg cag gac tac ctc tgc acc ctt gct tca agg atc cgg   1225
Gly Asn Lys Ala Gln Asp Tyr Leu Cys Thr Leu Ala Ser Arg Ile Arg
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agg cta gac gag agg gcc cag agc aga gcc aag aaa gca ggc acg ctg   1273
Arg Leu Asp Glu Arg Ala Gln Ser Arg Ala Lys Lys Ala Gly Thr Leu
365                 370                 375                 380

cct ttc agc tgg gta tat ggt agg gaa gtc caa ctg tga aatcggaaac   1322
Pro Phe Ser Trp Val Tyr Gly Arg Glu Val Gln Leu
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Thr Ser Ala Ala Val Ser Thr Arg Val Glu Asn Lys Lys Pro Phe Ala
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Pro Pro Arg Glu Val His Val Gln Val Thr His Ser Met Pro Ser His
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Lys Ile Glu Ile Phe Lys Ser Leu Asp Asp Trp Ala Arg Asp Asn Ile
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Leu Pro Asp Pro Ala Ser Glu Gly Phe His Asp Glu Val Lys Glu Leu
            100                 105                 110

Arg Glu Arg Ala Lys Glu Ile Pro Asp Asp Tyr Phe Val Cys Leu Val
        115                 120                 125

Gly Asp Met Ile Thr Glu Glu Ala Leu Pro Thr Tyr Gln Thr Met Leu
    130                 135                 140

Asn Thr Leu Asp Gly Val Arg Asp Glu Thr Gly Ala Ser Pro Thr Ala
145                 150                 155                 160

Trp Ala Val Trp Thr Arg Ala Trp Thr Ala Glu Glu Asn Arg His Gly
                165                 170                 175

Asp Leu Leu Asn Lys Tyr Met Tyr Leu Thr Gly Arg Val Asp Ile Arg
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Gln Ile Glu Lys Thr Ile Gln Tyr Leu Ile Gly Ser Gly Met Asp Pro
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Arg Thr Glu Asn Asn Pro Tyr Leu Gly Phe Val Tyr Thr Ser Phe Gln
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Glu Arg Ala Thr Phe Ile Ser His Gly Asn Thr Ala Arg His Ala Lys
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Asp Phe Gly Asp Leu Lys Leu Ala Gln Ile Cys Gly Ile Ile Ala Ser
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Asp Glu Lys Arg His Glu Thr Ala Tyr Thr Lys Ile Val Glu Lys Leu
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Phe Glu Ile Asp Pro Asp Gly Thr Val Val Ala Leu Ala Asp Met Met
        275                 280                 285

Lys Lys Lys Ile Ser Met Pro Ala His Leu Met Phe Asp Gly Gln Asp
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Asp Lys Leu Phe Glu His Phe Ser Met Val Ala Gln Arg Leu Gly Val
305                 310                 315                 320

Tyr Thr Ala Arg Asp Tyr Ala Asp Ile Leu Glu Phe Leu Val Asp Arg
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Trp Lys Val Ala Asp Leu Thr Gly Leu Ser Gly Glu Gly Asn Lys Ala
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Gln Asp Tyr Leu Cys Thr Leu Ala Ser Arg Ile Arg Arg Leu Asp Glu
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Met Ala Leu Arg Ala
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Ser Pro Val Ser His Gly Thr Ala Ala Ala Pro Leu Pro Pro Phe Ala
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Arg Arg Lys Met Ala Arg Gly Val Val Val Ala Met Ala Ser Thr Ile
25 30 35

aac agg gtc aaa act gtc aaa gaa ccc tat acc cct cca cga gag gta 260
Asn Arg Val Lys Thr Val Lys Glu Pro Tyr Thr Pro Pro Arg Glu Val
40 45 50

cat cgc caa att acc cat tca cta cca cct caa aag cgg gag att ttc 308
His Arg Gln Ile Thr His Ser Leu Pro Pro Gln Lys Arg Glu Ile Phe
55 60 65

gat tca ctt caa cct tgg gcc aag gat aac cta ctg aac cta ctg aag 356
Asp Ser Leu Gln Pro Trp Ala Lys Asp Asn Leu Leu Asn Leu Leu Lys
70 75 80 85

cca gtt gaa aag tca tgg cag cca cag gac ttc cta cca gag cct tct 404
Pro Val Glu Lys Ser Trp Gln Pro Gln Asp Phe Leu Pro Glu Pro Ser
90 95 100

tct gat ggg ttt tat gat gaa gtt aaa gaa ctg agg gag cgg gca aat 452
Ser Asp Gly Phe Tyr Asp Glu Val Lys Glu Leu Arg Glu Arg Ala Asn
105 110 115

gaa ata cct gat gaa tac ttt gtt tgc tta gtt ggt gat atg gtt act 500
Glu Ile Pro Asp Glu Tyr Phe Val Cys Leu Val Gly Asp Met Val Thr
120 125 130

gag gaa gcc tta cct aca tac caa aca atg ctt aac act ctt gat gga 548
Glu Glu Ala Leu Pro Thr Tyr Gln Thr Met Leu Asn Thr Leu Asp Gly
135 140 145

gtc cgg gat gaa act ggt gca agt tca acc acg tgg gcg gtt tgg aca 596
Val Arg Asp Glu Thr Gly Ala Ser Ser Thr Thr Trp Ala Val Trp Thr
150 155 160 165

agg gca tgg aca gct gaa gag aac aga cat ggt gac ctc ctt aac aag 644
Arg Ala Trp Thr Ala Glu Glu Asn Arg His Gly Asp Leu Leu Asn Lys
170 175 180

tac atg tac ctt act gga cgg gtt gac atg aaa caa att gag aag acc 692
Tyr Met Tyr Leu Thr Gly Arg Val Asp Met Lys Gln Ile Glu Lys Thr
185 190 195

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ata caa tat ctg att ggt tcc gga atg gat cct gga act gag aac aac   740
Ile Gln Tyr Leu Ile Gly Ser Gly Met Asp Pro Gly Thr Glu Asn Asn
        200                 205                 210

ccc tac ttg ggt ttc ctc tac aca tca ttc caa gaa agg gca aca ttt   788
Pro Tyr Leu Gly Phe Leu Tyr Thr Ser Phe Gln Glu Arg Ala Thr Phe
    215                 220                 225

gtg tcg cat ggg aat act gca agg cat gcc aag gag tat ggt gat ctc   836
Val Ser His Gly Asn Thr Ala Arg His Ala Lys Glu Tyr Gly Asp Leu
230                 235                 240                 245

aag ctg gcc cag ata tgt ggc acg ata gca gcc gat gag aag cgc cac   884
Lys Leu Ala Gln Ile Cys Gly Thr Ile Ala Ala Asp Glu Lys Arg His
                250                 255                 260

gaa aca gcc tac acc aag ata gtc gag aag ctc ttc gag atg gac cct   932
Glu Thr Ala Tyr Thr Lys Ile Val Glu Lys Leu Phe Glu Met Asp Pro
            265                 270                 275

gat tac aca gtg ctt gcg ttt gct gac atg atg agg aag aag atc acg   980
Asp Tyr Thr Val Leu Ala Phe Ala Asp Met Met Arg Lys Lys Ile Thr
        280                 285                 290

atg cca gcc cat ctc atg tac gac ggt aag gac gac aac ctg ttc gag   1028
Met Pro Ala His Leu Met Tyr Asp Gly Lys Asp Asp Asn Leu Phe Glu
    295                 300                 305

cac ttc agc gcg gtg gcg cag agg ctg ggc gtc tac acc gcc aaa gac   1076
His Phe Ser Ala Val Ala Gln Arg Leu Gly Val Tyr Thr Ala Lys Asp
310                 315                 320                 325

tac gcc gac atc ctc gag ttc ctg gtc cag agg tgg aaa gtc gcg gag   1124
Tyr Ala Asp Ile Leu Glu Phe Leu Val Gln Arg Trp Lys Val Ala Glu
                330                 335                 340

ctc aca ggg ctg tct gga gaa ggg aga agc gcg cag gac ttt gtc tgt   1172
Leu Thr Gly Leu Ser Gly Glu Gly Arg Ser Ala Gln Asp Phe Val Cys
            345                 350                 355

acc ttg gcg ccg agg atc agg cgg ctg gat gat aga gct caa gcg agg   1220
Thr Leu Ala Pro Arg Ile Arg Arg Leu Asp Asp Arg Ala Gln Ala Arg
        360                 365                 370

gcg aag caa gca ccg gtt att cct ttc agt tgg gtt tat gac cgc aag   1268
Ala Lys Gln Ala Pro Val Ile Pro Phe Ser Trp Val Tyr Asp Arg Lys
    375                 380                 385

gtg cag ctt taa tcaagaacgc taggcaatgt gggcatttac tacgtatatc       1320
Val Gln Leu
390

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<212>  PRT
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<213> Zea mays

<400> 11

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            20                  25                  30

Met Ala Ser Thr Ile Asn Arg Val Lys Thr Val Lys Glu Pro Tyr Thr
        35                  40                  45

Pro Pro Arg Glu Val His Arg Gln Ile Thr His Ser Leu Pro Pro Gln
    50                  55                  60

Lys Arg Glu Ile Phe Asp Ser Leu Gln Pro Trp Ala Lys Asp Asn Leu
65                  70                  75                  80

Leu Asn Leu Leu Lys Pro Val Glu Lys Ser Trp Gln Pro Gln Asp Phe
                85                  90                  95

Leu Pro Glu Pro Ser Ser Asp Gly Phe Tyr Asp Glu Val Lys Glu Leu
            100                 105                 110

Arg Glu Arg Ala Asn Glu Ile Pro Asp Glu Tyr Phe Val Cys Leu Val
        115                 120                 125

Gly Asp Met Val Thr Glu Glu Ala Leu Pro Thr Tyr Gln Thr Met Leu
    130                 135                 140

Asn Thr Leu Asp Gly Val Arg Asp Glu Thr Gly Ala Ser Ser Thr Thr
145                 150                 155                 160

Trp Ala Val Trp Thr Arg Ala Trp Thr Ala Glu Glu Asn Arg His Gly
                165                 170                 175

Asp Leu Leu Asn Lys Tyr Met Tyr Leu Thr Gly Arg Val Asp Met Lys
            180                 185                 190

Gln Ile Glu Lys Thr Ile Gln Tyr Leu Ile Gly Ser Gly Met Asp Pro
        195                 200                 205

Gly Thr Glu Asn Asn Pro Tyr Leu Gly Phe Leu Tyr Thr Ser Phe Gln
    210                 215                 220

Glu Arg Ala Thr Phe Val Ser His Gly Asn Thr Ala Arg His Ala Lys
225                 230                 235                 240

Glu Tyr Gly Asp Leu Lys Leu Ala Gln Ile Cys Gly Thr Ile Ala Ala
                245                 250                 255

Asp Glu Lys Arg His Glu Thr Ala Tyr Thr Lys Ile Val Glu Lys Leu
            260                 265                 270

Phe Glu Met Asp Pro Asp Tyr Thr Val Leu Ala Phe Ala Asp Met Met
        275                 280                 285

Arg Lys Lys Ile Thr Met Pro Ala His Leu Met Tyr Asp Gly Lys Asp
    290                 295                 300

Asp Asn Leu Phe Glu His Phe Ser Ala Val Ala Gln Arg Leu Gly Val
305                 310                 315                 320

Tyr Thr Ala Lys Asp Tyr Ala Asp Ile Leu Glu Phe Leu Val Gln Arg
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325 330 335

Trp Lys Val Ala Glu Leu Thr Gly Leu Ser Gly Glu Gly Arg Ser Ala
340 345 350

Gln Asp Phe Val Cys Thr Leu Ala Pro Arg Ile Arg Arg Leu Asp Asp
355 360 365

Arg Ala Gln Ala Arg Ala Lys Gln Ala Pro Val Ile Pro Phe Ser Trp
370 375 380

Val Tyr Asp Arg Lys Val Gln Leu
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<210> 12
<211> 18
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<220>
<223> Description of Artificial Sequence: SYNTHETIC OLIGONUCLEOTIDE

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<210> 13
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC OLIGONUCLEOTIDE

<400> 13
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<210> 14
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC OLIGONUCLEOTIDE

<400> 14
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<210> 15
<211> 21
<212> DNA
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<400> 15
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<210> 16
<211> 22
<212> DNA
<213> Artificial Sequence

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<223> Description of Artificial Sequence: SYNTHETIC OLIGONUCLEOTIDE

<400> 16
aggcgctgac ggtggcgacg ct 22

<210> 17
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC OLIGONUCLEOTIDE

<400> 17
gtgttggcga ggcacgtgag 20

<210> 18
<211> 46
<212> DNA
<213> Artificial Sequence

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<223> Description of Artificial Sequence: SYNTHETIC OLIGONUCLEOTIDE

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<210> 19
<211> 1714
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ttagctccgt catgaattta gtaaccgact cgatatgtac cgtggaaccc ctagggcatg 180
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gagagataca tacacgacac gttagggacg taaaatgacg gaattataca gctacctcta 480
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<212> DNA
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<400> 20
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<210> 21
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<212> DNA
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<400> 21
gaggagtgag gatcctgatt gactatctca ttc 33

<210> 22
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<223> Description of Artificial Sequence: SYNTHETIC OLIGONUCLEOTIDE

<400> 22
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<210> 23
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<212> DNA
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<223> Description of Artificial Sequence: SYNTHETIC OLIGONUCLEOTIDE

<400> 23
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<210> 24
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<212> DNA
<213> Artificial Sequence

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<223> Description of Artificial Sequence: SYNTHETIC OLIGONUCLEOTIDE

<400> 24
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<210> 25
<211> 32
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<400> 25
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<210> 26
<211> 32
<212> DNA
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<400> 26
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<210> 27
<211> 33
<212> DNA
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<400> 27
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<210> 28
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<212> DNA
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<220>
<223> Description of Artificial Sequence: SYNTHETIC OLIGONUCLEOTIDE

<400> 28
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<210> 29
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<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC OLIGONUCLEOTIDE

<400> 29
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<210> 30
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<220>
<223> Description of Artificial Sequence: SYNTHETIC OLIGONUCLEOTIDE

<400> 30
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<210> 31
<211> 25
<212> DNA
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<223> Description of Artificial Sequence: SYNTHETIC OLIGONUCLEOTIDE

<400> 31
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<210> 32
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<212> DNA
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<223> Description of Artificial Sequence: SYNTHETIC OLIGONUCLEOTIDE

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<210> 33
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<212> DNA
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<210> 34
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<210> 37
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<213> Artificial Sequence

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<400> 37
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<210> 38
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<210> 39
<211> 871
<212> DNA
<213> Zea mays

<400> 39
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<212> DNA
<213> Zea mays

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<211> 952
<212> DNA
<213> Zea mays

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<213> Zea mays

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<213> Zea mays

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<213> Zea mays

<400> 47
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<210> 49

<211> 272
<212> DNA
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<223> Description of Artificial Sequence: SYNTHETIC OLIGONUCLEOTIDE

<400> 50
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<210> 51
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<210> 52
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<210> 54
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<210> 55
<211> 25
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<223> Description of Artificial Sequence: SYNTHETIC OLIGONUCLEOTIDE

<400> 55
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<210> 56
<211> 20
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<220>
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<400> 56
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<210> 57
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<210> 58
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